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REMARKS

In view of the following discussion, Applicants submit that claims 72-75, 77-78, 80-108, 111-112, 114-140, and 142 are directed to statutory subject matter under the provisions of 35 U.S.C. §101, and they comply with the requirements of 35 U.S.C. §112. Thus, Applicants believe that these claims are now in condition for allowance.

I. REJECTION OF CLAIMS 72-75, 77-108, 111-140 and 142 UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

The Examiner has rejected claims 72-75, 77-108, 111-140 and 142 under 35 U.S.C. §112, first paragraph.

Responsive to the Examiner, Applicants amended claims 72, 107 and 142 to clarify the invention as requested by the Examiner and respectfully traverse the rejection. Further, Applicants submit that the particular limitations of each of the claims are supported at least by the Summary of the Invention at pages 2-4, the Detailed Description at pages 8-17 and Figures 1-4 and 7. For more specificity, Section III of this response identifies particular page numbers and lines for each limitation as outlined below.

In response to the Examiner's statement that the method disclosed has specific steps not included in the claims, Applicants submit that this is not required of the claims. Section 2164.08 of the MPEP states that "limitations and examples in the specification do not generally limit what is covered by the claims." "That claims are interpreted in light of the specification does not mean that everything in the specification must be read into the claims". Raytheon Co. v. Roper Corp., 724 F.2d 951, 957 (Fed. Cir. 1983). Thus, "the claim, not the specification, measures the invention" such that not "everything expressed in the specification must be read into all the claims." Id. Accordingly, Applicants submit that the claims define the invention based on the limitations therein. Therefore, Applicants respectfully request withdrawal of the rejection and allowance of the claims.

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II. REJECTION OF CLAIMS 72-75, 77-108, 111-140 AND 142 UNDER 35 U.S.C. § 101

The Examiner has rejected claims 72-75, 77-108, 111-140 and 142 under 35 U.S.C. §101 as being directed to non-statutory subject matter.

Responsive to the Examiner, Applicants amended claims 72, 107 and 142 to clarify the invention as requested by the Examiner and respectfully traverse the rejection. Specifically, the claims include the limitation of "determining a likelihood that the set of biopolymer sequences is represented by the model" or "outputting the score indicative of a likelihood that the set of biopolymer sequences is represented by the model." The Examiner advised that a method with one of these limitations would be considered to produce a concrete, tangible, and useful result. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of the claims.

Furthermore, Applicants submit that knowing a biopolymer's similarity to characterized sequences can be used to impute function based on this classification, as discussed at page 1, lines 11-16 of the present application. Additionally, section 2107.01 of the MPEP states that research tools such as screening assays and nucleotide sequencing techniques have a clear, specific and unquestionable utility (e.g., they are useful in analyzing compounds). Similarly, the invention contemplates analyzing biopolymer sequences to enable identification of new hormones, for example, based on identification of similar biopolymers, as set forth on page 14, lines 3-11 of the current application. For these reasons, Applicants submit that identifying similarity between biopolymers is a useful invention patentable under 35 U.S.C. § 101. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of the claims.

III. SUPPORT FOR THE CLAIMS IN THE ORIGINALLY FILED SPECIFICATION

In response to the Examiner's request to point to page and line number in the specification in support of particular limitations of each claim, Applicants submit that support for the claims can be found in the specification at least as follows:

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- 72: constructing a statistical model... - page 2, last paragraph, through page 3, 3rd full paragraph, and Figures 2 and 4, comparing the set of biopolymer sequences to the statistical model... - page 13, 4th full paragraph, and Figures 1 and 2 (*Applicants note the similarity of this limitation to the disclosure and citation pointed out by the Examiner in the Office Action.*), and determining a likelihood that the set of biopolymer sequences is represented by the model... - page 10, 3rd and 4th full paragraphs, page 13, 4th full paragraph, through page 14, 1st full paragraph, and Figure 1 (*Applicants note the similarity of this limitation to the disclosure and citation pointed out by the Examiner in the Office Action.*);
- 73: page 9, last paragraph and Figure 2;
- 74: page 10, 1st full paragraph;
- 75 & 108: page 9, 2nd full paragraph through last paragraph;
- 77 & 111: page 3, 1st full paragraph;
- 78 & 112: page 3, 1st full paragraph;
- 80 & 114: page 3, 2nd full paragraph;
- 81 & 115: page 3, 2nd full paragraph;
- 82 & 116: page 3, 2nd full paragraph;
- 83 & 117: page 3, 2nd full paragraph;
- 84 & 118: page 13, 2nd full paragraph;
- 85 & 119: page 13, 2nd full paragraph;
- 86 & 120: page 3, 3rd full paragraph;
- 87 & 121: page 3, 4th full paragraph;
- 88 & 122: page 3, 4th full paragraph;
- 89 & 123: page 3, 4th full paragraph;
- 90 & 124: page 3, 4th full paragraph;
- 91 & 125: page 9, last paragraph, and Figures 1 and 2;

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- 92 & 126: page 4, 1st paragraph;
93 & 127: page 4, 1st paragraph;
94 & 128: page 4, 1st paragraph;
95 & 129: page 4, 1st paragraph;
96 & 130: page 4, 1st paragraph;
97 & 131: page 4, 1st paragraph;
98 & 132: page 4, 1st paragraph;
99 & 133: page 4, 1st paragraph;
100 & 134: page 4, 1st paragraph;
101 & 135: page 4, 3rd paragraph;
102 & 136: page 4, 3rd paragraph;
103 & 137: page 4, 3rd paragraph;
104 & 138: page 4, 3rd paragraph;
105 & 139: page 4, 3rd paragraph;
106 & 140: page 4, 3rd paragraph;
107: constructing a statistical model... - page 2, last paragraph, through
page 3, 3rd full paragraph, page 9, last paragraph, through page
10, 1st full paragraph, and Figures 1, 2 and 4,
comparing the set of biopolymer sequences to the statistical
model... - page 13, 4th full paragraph, and Figures 1 and 2, and
determining a likelihood that the set of biopolymer sequences is
represented by the model... - page 10, 3rd full paragraph, page
13, 4th full paragraph, through page 14, 1st full paragraph, and
Figure 1; and
142: a computer readable medium having stored thereon a plurality of
instructions... - page 16, last paragraph, and Figure 7,
constructing a statistical model... - page 2, last paragraph, through
page 3, 3rd full paragraph, and Figures 2 and 4,
comparing the set of biopolymer sequences to the statistical
model... - page 13, 4th full paragraph, and Figures 1 and 2, and

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determining a likelihood that the set of biopolymer sequences is represented by the model... - page 10, 3rd full paragraph, page 13, 4th full paragraph, through page 14, 1st full paragraph, and Figure 1.

IV. REVOCATION OF PREVIOUS POWER OF ATTORNEY AND NEW APPOINTMENT AND CHANGE OF CORRESPONDENCE ADDRESS

It should be noted that Applicants previously filed a Revocation of Previous Power of Attorney and New Appointment and Change of Correspondence Address (enclosed again) on December 12, 2003. It is respectfully requested that the USPTO recognizes the new appointment and the new correspondence address.

Conclusion

Applicants submit that all of these claims fully satisfy the requirements of 35 U.S.C. §§101 and 112. Consequently, the Applicants believe that all the claims are presently in condition for allowance. Thus, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there remains unresolved issues, prior to the issuance of a final action in any of the claims now pending in the application, it is requested that the Examiner grant Applicants a telephone interview by contacting the undersigned at (732) 530-9404 so that such issues are resolved as expeditiously as possible.

If these papers are not considered timely filed by the United States Patent and Trademark Office, or if any additional fees are required, kindly charge that fee to Deposit Account No. 20-0782.

Respectfully submitted,

Date: 2/28/05


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